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AUGUST 12, 1985

CHEMICAL & ENGINEERING

NEWS

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More power comes to theoretical chemists
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CHEMICAL & ENGINEERING
NEWS
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■ **District court judge orders EPA to require cuts in SO_2 emissions from electric utilities within nine months.** **Page 4**

■ **U.S. water quality is much improved since 1977, when first water pollution control law was enacted.** **Page 5**

■ **Instrument that simultaneously measures magnetic character of a surface and its physical structure down to 10-nm dimensions developed at NBS.** **Page 5**

■ **U.S. Customs rules that all imported fuel-grade ethanol must be subject to 60 cent-per-gal duty.** **Page 5**

■ **First of Intel's iPSC line of high-power, low-cost computers go to Yale and ORNL.** **Page 6**

■ **Human gene that codes for blood cell protein cloned by Cetus scientists.** **Page 6**

Cover: Molecular modeling by Cray X-MP supercomputer shows sodium ion (green) surrounded by water molecules (orange) traveling down the acetylcholine receptor ion channel (blue) in nerve tissue. Photo copyright: Regents, University of California

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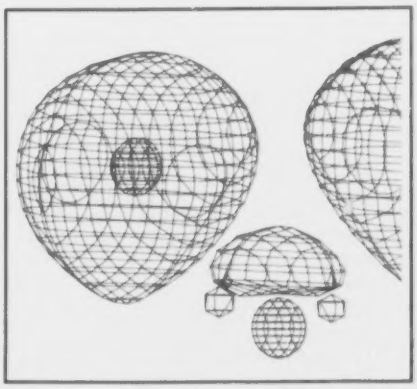


News Focus

Supercomputers, which can solve big problems in a small amount of time, are found in more U.S. computer centers than ever before. **Page 7**

Chemical Earnings Continue To Decline in Second Quarter

William J. Storck, C&EN New York

Problems continued unabated for the chemical industry in the second quarter this year. Sales and earnings both fell for U.S. chemical companies as well as oil and gas producers with chemical operations, and earnings were off for diversified firms producing chemicals.

Though production increased in the second quarter, chemical makers were still having problems with pricing, essentially because of pressures from two fronts. The first was competition from imported products, a factor that has held prices in check for some time. The strength of the dollar against other currencies has in effect given a subsidy to foreign producers, allowing them to sell their products here at prices that are highly competitive with U.S.-produced chemicals and to take overseas markets away from U.S. chemical producers.

The second factor is softness in oil prices. This has led chemical customers to resist price increases attempted by producers. Customers claim that producers should pass along any savings to them. This ignores, of course, other factors in the price structure of chemicals.

The result has been lower demand than should be normal at this time in the business cycle and consequent overcapacity in the industry. Thus, profit margins for chemicals have been shrinking even though chemical companies have trimmed production costs in the past five years. Many of the cost-cutting measures seem to have been exploited to their limits and unless another round is instituted, chemical companies now will have to rely on traditional marketplace methods to increase mar-

Chemical industry leaders for the second quarter . . .

Sales			Earnings[a]			Profitability		
Rank	$ Millions	Rank 1984		$ Millions	Rank 1984		Earnings as % of sales	Rank 1984
1 Dow Chemical	$3002.0	1	Dow Chemical	$155.0	1	International Flavors	14.8%	2
2 Union Carbide	2258.0	2	Monsanto	124.0	2	Loctite	13.1	1
3 W. R. Grace	1908.9	4	PPG Industries	89.4	4	Nalco Chemical	11.3	4
4 Monsanto	1627.0	3	Union Carbide	85.0	3	Freeport-McMoRan	10.8	3
5 PPG Industries	1100.0	5	Celanese	45.0	9	Ethyl	8.9	13
6 American Cyanamid	911.1	6	W. R. Grace	41.4	5	Petrolite	8.6	9
7 Chesebrough-Pond's	825.9	nr	Rohm & Haas	41.4	7	Air Products	8.2	8
8 Celanese	780.0	7	Air Products	37.7	10	PPG Industries	8.1	12
9 Hercules	698.8	8	Ethyl	36.0	11	First Mississippi	7.8	5
10 Rohm & Haas	553.6	9	Hercules	33.9	6	Monsanto	7.6	11

. . . and for the first six months of 1985

Sales			Earnings[a]			Profitability		
Rank	$ Millions	Rank 1984		$ Millions	Rank 1984		Earnings as % of sales	Rank 1984
1 Dow Chemical	$5755.0	1	Dow Chemical	$265.0	2	International Flavors	14.7%	1
2 Union Carbide	4430.0	2	Monsanto	211.0	1	Freeport-McMoRan	11.4	2
3 W. R. Grace	3488.8	4	PPG Industries	169.8	4	Nalco Chemical	11.0	4
4 Monsanto	3251.0	3	Union Carbide	156.0	3	Petrolite	8.8	8
5 PPG Industries	2200.0	5	Rohm & Haas	81.7	5	Ethyl	8.2	14
6 American Cyanamid	1793.8	6	Celanese	81.0	9	Air Products	8.0	10
7 Celanese	1528.0	7	W. R. Grace	76.9	7	Loctite	7.8	3
8 Hercules	1337.0	8	American Cyanamid	74.9	6	PPG Industries	7.7	12
9 Chesebrough-Pond's	1264.0	nr	Air Products	73.3	10	Lubrizol	7.4	7
10 Rohm & Haas	1106.4	10	Hercules	69.7	8	Rohm & Haas	7.4	5

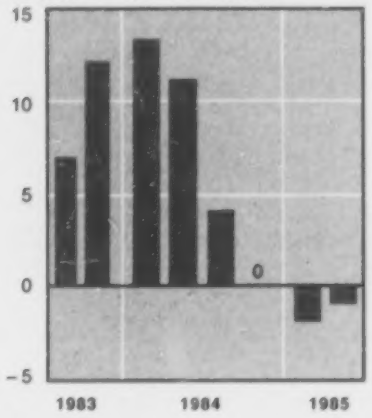
a After taxes. nr = not ranked. **Note:** Based on 30 companies listed on page 20.

Chemical industry 1985 second-quarter results

- Sales slip 1%
- Earnings fall 17%
- Profit margins up to 5.2%
- Production rises 4.5%
- Prices remain level

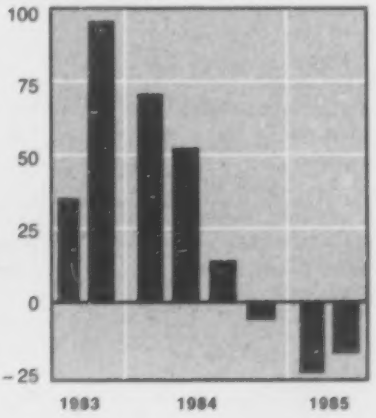
Sales

% change from year-earlier quarter



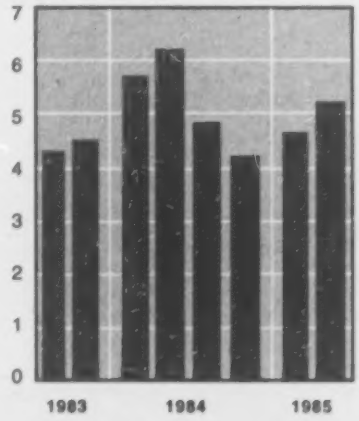
Earnings

% change from year-earlier quarter



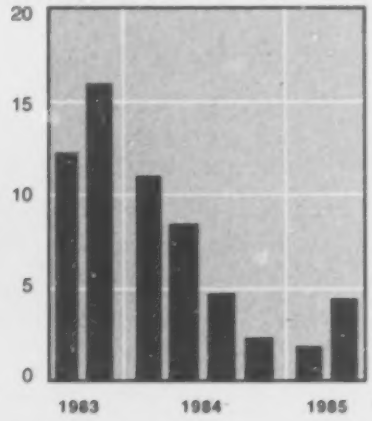
Profit margins

After-tax earnings as % of sales



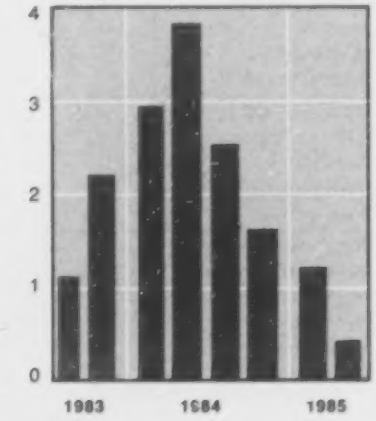
Production

% change from year-earlier quarter



Prices

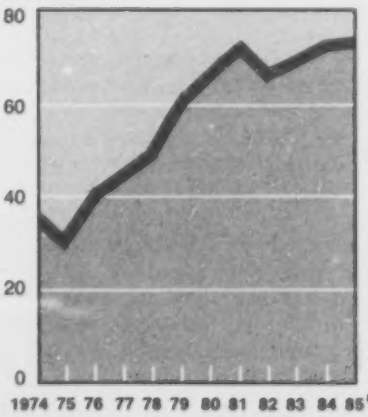
% change from year-earlier quarter



Sales in 1985 will rise about 2% and earnings will be about the same as last year, lowering profit margins to 5.1%

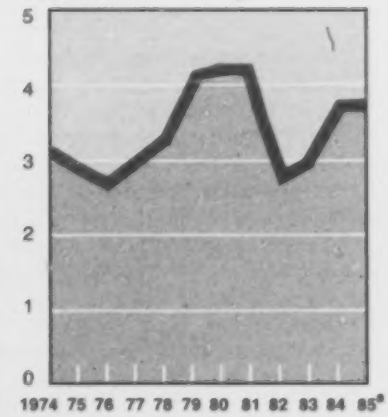
Annual sales

$ Billions



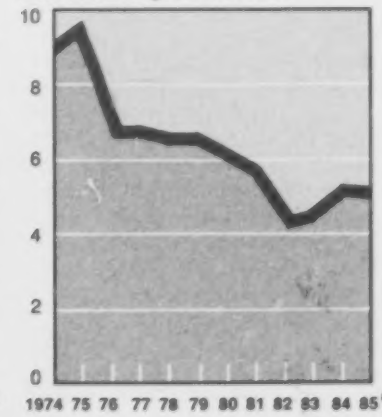
Annual earnings

$ Billions



Annual profit margins

After-tax earnings as % of sales



a C&EN estimates. **Note:** All sales, earnings, and profit-margin data are based on combined results of the 30 companies listed on page 20.

Chemical earnings slid 17% in the second quarter

	SECOND-QUARTER 1985						FIRST-HALF 1985			
	Sales	Earnings[a]	Change from 1984		Profit margin[b]		Sales	Earnings[a]	Change from 1984	
	($ millions)		Sales	Earnings	1985	1984	($ millions)		Sales	Earnings[a]
Air Products[c]	$ 460.0	$ 37.7	2%	−1%	8.2%	8.5%	$ 917.7	$ 73.3	2%	−2%
American Cyanamid[c]	911.1	32.3	0	−38	3.5	5.7	1,793.8	74.9	−1	−28
Celanese[c]	780.0	45.0	−9	−4	5.8	5.5	1,528.0	81.0	−10	−11
Chemed	92.8	4.3	8	−29	4.7	7.1	181.6	8.3	9	25
Chesebrough-Pond's[c,d]	825.9	23.9	nm	nm	2.9	5.1	1,264.0	38.7	nm	nm
Crompton & Knowles	61.6	2.3	−1	−3	3.7	3.8	117.4	3.5	−4	−16
Dow Chemical[c]	3,002.0	155.0	1	−10	5.2	5.8	5,755.0	265.0	−2	−13
Essex Chemical	58.8	3.5	11	−5	6.0	7.0	104.3	5.9	13	3
Ethyl	404.3	36.0	−9	14	8.9	7.1	781.7	64.2	−10	14
First Mississippi	74.8	5.8	−13	−31	7.8	9.8	143.0	9.7	−9	−26
Freeport-McMoRan	190.9	20.6	−12	−20	10.8	11.9	405.6	46.3	−4	−3
H. B. Fuller	115.7	3.5	−1	−13	3.0	3.4	224.3	5.2	1	−14
W. R. Grace[c]	1,906.9	41.4	10	−28	2.2	3.3	3,488.8	76.9	8	−26
Hercules[c]	698.8	33.9	5	−37	4.9	8.1	1,337.0	69.7	4	−31
International Flavors	129.8	19.2	−1	−9	14.8	16.2	251.1	36.8	−1	−8
International Minerals[c]	465.6	17.1	−1	−32	3.7	5.4	878.9	47.8	3	−8
Loctite	59.9	7.8	−6	−36	13.1	19.2	113.9	8.9	−10	−37
Lubrizol	247.4	17.8	11	−18	7.2	9.7	500.4	37.2	16	−3
Monsanto[c]	1,627.0	124.0	−10	−14	7.6	8.1	3,251.0	211.0	−8	−34
Morton-Thiokol[c]	450.7	28.0	1	7	6.2	5.9	947.6	60.0	2	17
Nalco Chemical	166.2	18.8	−2	−4	11.3	11.5	330.3	36.4	−2	−1
National Distillers[c]	508.2	4.0	−6	−70	0.8	2.5	1,082.4	24.5	−4	−52
Olin[c]	462.4	13.7	−4	−54	3.0	6.2	937.5	25.9	0	−51
Pennwalt	275.2	12.8	1	11	4.6	4.2	536.7	19.5	1	−7
Petrolite	76.8	6.6	9	10	8.6	8.5	154.4	13.6	8	14
PPG Industries[c]	1,100.0	89.4	0	4	8.1	7.8	2,200.0	169.8	5	6
Reichhold Chemicals	235.2	2.1	7	−74	0.9	3.6	420.3	4.5	−2	−67
Rohm & Haas[c]	553.6	41.4	0	−20	7.5	9.4	1,106.4	81.7	0	−24
Union Carbide[c]	2,258.0	85.0	−6	−26	3.8	4.8	4,430.0	156.0	−8	−30
Witco Chemical	369.5	14.7	−3	−9	4.0	4.2	734.6	25.7	−2	−17
Total 14 largest companies[e]	**$15,186.3**	**$748.0**	**−1%**	**−18%**	**4.9%**	**5.9%**	**$29,654.1**	**$1417.5**	**−2%**	**−21%**
Second 15 companies	**$ 2,559.1**	**$175.8**	**−2%**	**−11%**	**6.9%**	**7.6%**	**$ 4,999.4**	**$ 325.8**	**−1%**	**−7%**
GRAND TOTAL*	**$17,745.4**	**$923.8**	**−1%**	**−17%**	**5.2%**	**6.2%**	**$34,653.5**	**$1743.3**	**−2%**	**−19%**

a After-tax earnings from continuing operations excluding significant extraordinary and nonrecurring items. b Earnings as a percentage of sales. c One of 15 largest companies. d Since Chesebrough's results were not restated for prior years as a result of acquisition of Stauffer, year-to-year comparisons are meaningless. e Excludes results of Chesebrough. nm = not meaningful.

gins. And it is these traditional methods that just don't seem to be working.

As a result, of 29 of the 30 largest U.S. chemical firms regularly surveyed by C&EN, just five—Ethyl, Morton-Thiokol, Pennwalt, Petrolite, and PPG Industries—registered increases in earnings from continuing operations in the second quarter compared with the same period in 1984. (Chesebrough-Pond's is not included in any of the cumulative totals. It has not restated its results prior to the acquisition of Stauffer Chemical, rendering any year-to-year comparisons meaningless.)

Only six of the companies surveyed recorded increases in profit margins—the same five companies

Ground rules for C&EN earnings analysis

C&EN's quarterly report on financial performance of the U.S. chemical industry contains data from the 30 largest U.S. basic chemical companies and from 41 oil and diversified companies, each with more than $200 million in annual chemical sales.

To be included in the table of basic chemical producers, a company must have at least 40% of its sales in chemicals, and its chemical operations must be the largest single portion of the company's operations. That is why Du Pont, for example, is included in the table of diversified manufacturers.

In referring to chemical sales, C&EN means those chemicals whose molecular composition has been changed in the course of manufacture. Hence, chemical sales include those of traditional categories of basic petrochemicals and inorganics, organic intermediates and inorganic compounds, polymers such as plastics and fibers, agricultural chemicals, and specialty derivatives.

In listing earnings, the survey gives after-tax income for continuing operations before nonrecurring items and extraordinary charges. Foreign currency translations are included.

FIRST-HALF 1985		12-MONTH RUNNING DATA			
Profit margin[b]		Change from 1984		Profit margin	
1985	1984	Sales	Earnings	1985	1984
8.0%	8.3%	2%	−1%	7.7%	8.0%
4.2	5.9	1	−19	4.5	5.6
5.3	5.4	−6	−14	4.8	5.2
4.6	6.6	15	−13	4.8	6.4
3.1	4.1	nm	nm	nm	nm
3.0	3.4	−5	1	3.2	3.0
4.6	5.2	−3	−8	3.9	4.1
5.7	6.2	4	64	5.6	3.6
8.2	6.5	−10	16	8.7	6.7
6.8	8.4	1	15	6.7	5.9
11.4	11.4	1	−2	11.5	12.0
2.3	2.7	2	−12	2.7	3.2
2.2	3.2	7	−26	1.9	2.7
5.2	7.9	1	−8	6.6	7.2
14.7	15.7	1	−4	14.0	14.8
5.4	6.1	6	−10	5.6	6.6
7.8	11.2	−4	−10	10.3	10.9
7.4	8.9	9	−1	7.2	8.0
6.5	9.1	−5	−34	5.1	7.4
6.3	5.5	6	12	6.7	6.3
11.0	11.0	−4	−3	10.6	10.5
2.3	4.5	−16	−43	2.1	3.1
2.8	5.6	−2	−32	2.9	4.2
3.6	4.0	3	−8	4.6	5.2
8.8	8.4	6	24	9.0	7.7
7.7	7.6	5	6	7.5	7.4
1.1	3.1	−1	−31	2.1	3.0
7.4	9.8	3	−16	7.1	8.7
3.5	4.6	−3	−22	3.2	4.0
3.5	4.1	1	−6	3.8	4.1
4.8%	**6.0%**	**−1%**	**−16%**	**4.4%**	**5.2%**
6.5%	**7.0%**	**0%**	**0%**	**6.9%**	**6.8%**
5.0%	**6.1%**	**−1%**	**−13%**	**4.8%**	**5.4%**

that had profit increases, plus Celanese, whose revenues fell faster than did earnings.

For the 29 companies for which year-to-year comparisons can be made, sales totaled more than $17.7 billion, a decline of 1% from the second quarter last year. Earnings at the 29 companies fell 17% from a year ago to a total of $924 million. Though this is less than the 2% decline in sales and 24% drop in earnings registered in the first quarter, it is still indicative of an industry plagued by some fundamental problems. Profit margins in the second quarter averaged 5.2%, a drop of a full percentage point from last year's second-quarter average profit margin of 6.2%.

As in the past, economic realities hit the larger chemical companies—traditionally more weighted toward basic, commodity chemicals—harder than they did the smaller firms in the survey. For the 14 largest companies on the list, sales slipped 1% to a total of almost $15.2 billion and earnings fell 18% to $748 million. Sales of the 15 smaller companies declined 2% to a total of $2.56 billion, and earnings dropped 11% to $176 million.

The 15 smaller companies also remained more profitable, with an average profit margin in the second quarter of 6.9% as compared to 4.9% for the 14 largest firms. In the second quarter of 1984, the smaller companies had an average profit margin of 7.6%; the larger companies, 5.9%.

The second quarter did not help the year much for chemical companies. In the first six months, sales of the 29 companies declined 2% to a total of almost $34.7 billion, and earnings fell 19% to $1.74 billion. Profit margins at the 29 firms dropped to 5.0% from 6.1% in the first six months of 1984.

This picture also holds for the larger company vs. smaller company comparison. For the 14 largest firms, sales in the first six months slipped 2% to almost $29.7 billion; earnings were down 21% to about $1.42 billion. For the smaller firms, sales on average declined 1% to almost $5.0 billion and earnings fell 7% to $326 million. Profit margins for the larger companies were 4.8%, compared with 6.5% for the smaller firms. In the six months of last year, the average profit margin for the larger companies was 6.0%; for the smaller firms, 7.0%.

For the second quarter of this year, sales rose an average of 4% from the first quarter and earnings climbed 18% for the 29 companies. For the 14 larger firms for this period, sales grew 14% and earnings increased 19%. Sales of the smaller companies increased 5%; earnings, 15%.

Chemical companies cannot find any solace in the performance of other groups of companies. Although sales at 15 oil and gas companies fell an average of 5% to a total $98.1 billion, earnings declined just 4% in the second quarter to a total of $4.72 billion. Sales of diversified and other companies with large chemical operations surveyed by C&EN remained about level and earnings fell 18%.

Corporate executives had little specific to blame for the lackluster performance in the second quarter and instead concentrated on the general economy and its ramifications. At Monsanto, where earnings decreased 14% on a sales drop of 10%, president and chief executive officer Richard J. Mahoney says, "Monsanto's second-quarter results reflect the continuing difficult economic environment for chemical-based industries. Since mid-1984, the U.S. manufacturing sector generally has not gotten much benefit from the modest economic growth we have encountered. Consequently, U.S. industrial demand for chemical-based products has lagged." He continues, "Many of the benefits of Monsanto's restructuring, cost controls, and efficiency improvements, which began in the 1980–82 period, have been temporarily offset in the U.S. by the dollar's strength and artificial disadvantages of currency values."

At Du Pont, the largest U.S. producer of chemicals, where earnings fell 39% on a 6% sales decline, chairman and chief executive officer Edward G. Jefferson agrees with Mahoney about the economy. He says that Du Pont's reduced earnings "reflect continued weakness in the industrial sector of the domestic economy, which has experienced virtually no growth since the middle of 1984. In addition, the abnormally strong dollar has further eroded prices and volume in domestic markets, which are flooded with imports, and in international markets where the cost competitiveness of our exports has been severely impaired."

Results varied widely at oil, diversified companies

	% chemical sales	SECOND-QUARTER 1985 Sales ($ millions)	Earnings[a] ($ millions)	Change from 1984 Sales	Change from 1984 Earnings	Profit margin[b] 1985	Profit margin[b] 1984	FIRST-HALF 1985 Sales ($ millions)	Earnings[a] ($ millions)	Change from 1984 Sales	Change from 1984 Earnings	Profit margin[b] 1985	Profit margin[b] 1984
OIL AND GAS COMPANIES													
American Petrofina	15%	$ 587.0	$ 12.9	18%	−18%	2.2%	3.2%	$ 1,153.0	$ 10.2	10%	−61%	0.9%	2.5%
Amoco	10	7,300.0	600.0	−1	15	8.2	7.1	1,073.0	14.3	−4	−5	1.3	1.3
Atlantic Richfield	10	5,771.0	402.0	−5	−12	7.0	7.5	11,538.0	775.0	−8	−14	6.7	7.1
Chevron	4	11,700.0	380.0	−6	0	3.2	3.0	24,300.0	734.0	23	−3	3.0	3.8
Diamond Shamrock	21	1,030.1	45.9	−9	−29	4.5	5.7	1,984.8	104.9	−13	−15	5.3	5.4
Exxon	7	22,970.0	1290.0	−6	−4	5.6	5.6	46,233.0	2615.0	−6	−7	5.7	5.7
Mobil	4	14,473.0	411.0	−3	12	2.8	2.4	29,814.0	731.0	−1	−2	2.5	2.5
Occidental Petroleum	7	3,678.9	137.7	−3	10	3.7	3.3	7,375.4	220.5	−4	−5	3.0	3.0
Shell Oil	17	5,102.0	337.0	−5	−19	6.6	7.8	9,845.0	633.0	−4	−15	6.4	7.2
Standard Oil (Ohio)	5	3,492.0	390.0	7	−15	11.2	14.1	6,690.0	733.0	9	−13	11.0	13.6
Sun Co.	3	3,680.0	146.0	−7	28	4.0	2.9	7,350.0	273.0	−10	7	3.7	3.1
Tenneco	7	3,762.0	164.0	−1	−25	4.4	5.8	7,481.0	227.0	−2	−39	3.0	4.9
Texaco	2	11,700.0	278.0	−10	11	2.4	1.9	23,700.0	484.0	0	−15	2.0	2.4
Unocal (Union Oil)	10	2,900.0	120.4	−3	−35	4.2	6.2	5,700.0	301.1	0	−18	5.3	6.4
Williams Cos.	22	726.5	19.8	−11	−59	2.7	6.0	1,771.1	49.0	−7	−63	2.8	6.9
DIVERSIFIED MANUFACTURERS													
Allied	23	2,753.0	152.0	0	17	5.5	4.7	5,534.0	286.0	0	9	5.2	4.8
Aluminum Co. of America	4	1,365.8	56.2	−6	−50	4.1	7.8	2,679.8	62.9	−9	−70	2.3	7.2
Borden	28	1,192.7	47.5	1	−7	4.0	4.3	2,270.1	82.3	−1	−3	3.6	3.7
Borg-Warner	21	1,032.8	49.0	0	5	4.7	4.5	1,972.1	93.6	−1	−3	4.7	4.9
Du Pont	34	8,532.0	268.0	−6	−39	3.1	4.8	16,791.0	490.0	−9	−40	2.9	4.4
Eastman Kodak	21	2,455.7	164.3	−4	−28	6.7	9.0	4,582.8	279.5	−2	−28	6.1	8.2
Engelhard	25	479.8	10.3	−21	−44	2.1	3.0	1,054.9	22.0	−16	−34	2.1	2.7
FMC	37	881.3	54.5	3	−18	6.2	7.7	1,637.1	98.5	−6	−13	6.0	6.5
GAF	51	188.1	15.4	−2	29	8.2	6.2	364.0	26.5	1	37	7.3	5.4
General Electric	7	6,840.0	500.0	3	−14	7.3	8.7	13,040.0	1011.0	−2	−5	7.8	8.0
Georgia-Pacific	10	1,794.0	67.0	7	2	3.7	4.0	3,374.0	116.0	7	6	3.4	3.5
B. F. Goodrich	40	894.4	12.5	1	−61	1.4	3.7	1,600.0	14.8	−6	−65	0.9	2.5
Kaiser Aluminum	18	845.3	−14.3	6	def	def	3.7	1,661.9	−32.8	11	def	def	3.2
Koppers	45	486.2	−12.0	5	def	def	3.2	839.9	−25.0	4	def	def	1.4
Eli Lilly	23	756.8	110.1	5	5	14.5	14.5	1,665.7	271.0	3	8	16.3	15.6
3M	15	1,954.0	168.0	0	−13	8.6	9.9	3,860.0	332.0	1	−10	8.6	9.6
Merck	17	877.4	137.9	−2	5	15.7	14.7	1,733.7	269.5	0	5	15.5	14.7
NL Industries	39	358.1	6.9	3	73	1.9	1.1	685.5	11.3	3	134	1.6	0.7
Northwest Industries	0	295.3	−50.9	−8	def	def	6.7	554.7	−42.7	−11	def	def	5.9
Pfizer	10	1,001.9	137.5	1	16	13.7	12.0	1,953.8	284.9	2	15	14.6	12.9
Tyler	33	240.6	5.6	−2	−35	2.3	3.5	459.9	8.8	−1	−30	1.9	2.7
Uniroyal	32	557.0	34.0	−5	−11	6.1	6.5	1,065.0	55.0	−3	−5	5.2	5.3
U.S. Steel	6	5,100.0	45.0	4	−6	0.9	1.0	9,600.0	32.0	−1	−59	0.3	0.8
Upjohn	13	543.3	52.2	8	8	9.6	9.5	1,019.6	107.2	1	−7	10.5	11.4
Vulcan Materials	30	264.6	25.6	2	0	9.7	9.9	468.1	30.6	1	−5	6.5	7.0

a From continuing operations excluding significant nonrecurring and extraordinary items. b Earnings as a percentage of sales. **def** = deficit.

The strength of the dollar was an oft-repeated theme throughout chemical company statements in the second quarter. About the least critical comment came from Ken W. Butterworth, president and chief executive officer of Loctite: "Our international business, which accounts for about 40% of our worldwide sales, continued very strong in local currency. When translated into stronger dollars, these showed modest growth."

Hercules chairman and chief executive officer Alexander F. Giacco says, "Most of the 34 cents [per share] decline in operating earnings originated in Hercules Specialty Chemicals Co. and equity in income of affiliated companies. This decline was largely due to the effects of the dollar's increased strength against foreign currencies."

Pricing also came in for its share of credit for the quarter's lackluster performance. National Distillers & Chemical chairman and chief exec-

utive officer Drummond C. Bell says that his company's disappointing results are attributable principally to depressed selling prices for both low- and high-density polyethylene and reduced sales for acetic acid and vinyl acetate. Earnings at National Distillers plummeted 70% in the quarter on a 6% decline in sales.

John M. Henske, chairman and chief executive officer of Olin, whose earnings dipped 54% on a 4% sales decline, says, "Imports, aided by the relative strength of the U.S. dollar, kept prices for many of our products at levels below last year."

One of the product areas strongly affected by price in the quarter was fertilizers, which have been a long-term drain on many companies' earnings. Williams Cos.' Agrico Chemical Co. registered a second-quarter operating profit of $17.2 million, down from $24.6 million in the same period of 1984. The company says that fertilizer sales volumes rose 13% over the second quarter of last year, but prices of most products were down from that period.

George J. Sella Jr., chairman of American Cyanamid, says, "As we anticipated, 1985 is turning out to be a very difficult year, primarily in the chemical and fertilizer industries." He attributes the company's 38% decline in earnings to the continuing effect of the strong U.S. dollar, the related increase in foreign price competition in chemicals, and overcapacity and lower selling prices for chemicals.

W. R. Grace's agricultural chemicals business recorded a loss of $1.4 million after taxes, compared with $14.0 million in income in the second quarter of 1984. Grace says that healthy second-quarter fertilizer sales volume was offset by the industry's weak price structure, the key factor in this group's steep earnings decline.

Whereas fertilizers were performing poorly in the quarter, the other agricultural sector of the chemical industry, pesticides, was showing mixed results, with a good quarter at Dow Chemical, moderate at FMC, and well down at other companies.

Dow notes that its agricultural group turned in a particularly strong performance. At FMC, sales of agricultural chemicals increased in the second quarter as pyrethroid sales rose and furadan insecticide-nematicide production returned to normal. The company says that expenses associated with procuring methyl isocyanate for furadan production were reduced in the second quarter, but remained higher than 1984 levels. At Rohm & Haas, however, chairman Vincent L. Gregory Jr. says, "The seasonal decline in agricultural chemicals was larger than normal [because of] competitive pricing pressures on Stam herbicide in North America and Dithane fungicide in Europe, and price controls in Latin America."

Corporate executives are continuing to become more pessimistic as the year goes on. Rohm & Haas' Gregory says, "The second-quarter performance was in line with our expectations and confirms our previous comment that, in 1985, Rohm & Haas will not match its record earnings performance of 1984."

Olin's Henske says, "Barring an unexpected major improvement in overall economic performance, Olin's earnings for all of 1985 will be considerably below those of last year." □

Petrochemicals took drubbing in second quarter

Earnings from chemical operations at oil companies in the second quarter repeated their poor performance of the first three months of 1985, and provided no help to the industry already suffering from poor results in its oil and gas operations.

After-tax earnings for the chemical operations of six oil companies that break out such data fell 37% in the second quarter to a combined total of $203 million. For the first six months of the year, combined earnings also were down 37% to $347 million.

Oil companies' chemical earnings are fairly indicative of the state of the petrochemical industry, since most of their chemical operations are in petrochemicals. To judge from these results, the petrochemical industry, although still making money, is far worse off than it was a year ago.

At Exxon, the third largest U.S. chemical producer, chemical profits fell 47% to $72 million in the second quarter from the same period a year ago. Chairman Clifton C. Garvin Jr. says of the company's chemical unit, "Sales volumes of prime products were up 2% in the U.S. and 5% abroad, with increases primarily in basic chemicals and plastics. Margins were depressed worldwide [because of] continued overcapacity and offset the effect of improved sales volumes."

Shell president John F. Bookout says that chemical sales volumes were about the same as last year, but that margins declined as lower selling prices more than offset the benefit of reduced feedstock costs. He adds that selling prices were lower in most business lines, particularly in commodity chemicals such as vinyl chloride and olefins.

Amoco says that sales volumes in all major chemical product lines remained strong, but results were adversely affected by lower margins. Capacity utilization for Amoco's chemical and polymer facilities increased to 88% from 79% in the second quarter a year ago.

Mobil, however, claims improved margins in the plastic packaging and consumer products parts of its chemical business. It says, though, that these only partly offset depressed petrochemical margins, caused by an oversupply situation.

EARNINGS ON CHEMICAL OPERATIONS

	Second quarter		%	First half		%
$ Millions	1985	1984	change	1985	1984	change
Amoco	$50.0	$ 57.0	−12%	$ 99.0	$116.0	−15%
Atlantic Richfield	18.0	30.0	−40	33.0	47.0	−30
Exxon	72.0	135.0	−47	152.0	256.0	−41
Mobil	18.0	29.0	−38	11.0	42.0	−74
Shell	35.0	58.0	−40	49.0	79.0	−38
Texaco	10.0	12.0	−17	3.0	9.0	−67

Drab First Half for Canadian Chemicals

Canadian chemical executives are an optimistic lot. With very few notable exceptions, sales during the second quarter were down or unchanged from a year before; earnings tailed off even more. Both sales and earnings for the entire first half are nothing to write home about.

Yet, most of Canada's top chemical leaders see bluer skies ahead. With fingers crossed, they agree with those Canadian economists who say that lower interest rates will help keep the country's economy moving moderately upward. Real gross national product likely will rise 3 to 4% this year and by something slightly less than that in 1986.

For these and other reasons peculiar to their own companies, Canadian chemical executives aren't too distraught by a generally lackluster performance in the first half.

W. Norman Kissick, chairman of Union Carbide Canada, for instance, says that he expects improvement in that company's performance for the balance of the year. Improvement will be welcome because Carbide Canada lost $2.6 million ($1.00 = 1.36 Canadian dollars, June 30) on sales of $223 million (down from $262 million) in the first half.

Carbide, stung more than most by Canada's past energy policies, probably will benefit now that new policies will allow market pricing for energy and feedstock products. And the company no longer will be burdened by losses chalked up by 50%-owned Pétromont in Montreal (the Quebec government is sustaining those operations) and by Petrosar in Sarnia (Carbide sold its stake to Polysar earlier this year).

Like Carbide, Du Pont Canada also sold its interest in Petrosar to Polysar. Unlike Carbide, however, Du Pont Canada shows a profit for the first half of the year.

Nevertheless, the company is struggling. Its $447 million sales during the first six months is down 0.8% from last year. But more significant, earnings have plummeted a hefty 77%.

A big reason why second-quarter earnings dropped from last year's $11.5 million to only $666,000 this year was a $6.2 million after-tax charge covering a voluntary early retirement program. In addition, one-shot extraordinary losses involving the Petrosar sale and the closing of its lead alkyl unit in Maitland, Ont., totaled $34.4 million. Net result for Du Pont Canada: a six-month loss of $29.8 million. Despite these early-year setbacks, Du Pont Canada chairman J. Edward Newall expects that demand for the company's products will improve gradually over the remainder of the year.

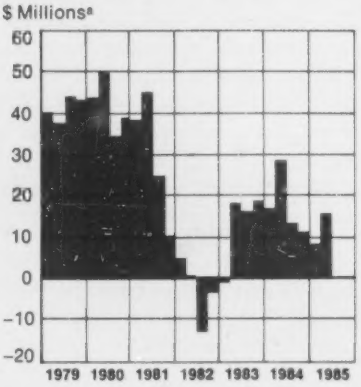
Meanwhile, at Celanese Canada, executive vice president Robert J. St. Jacques thinks that the third quarter will be better for that company than last year's comparable period. He sees the trend that developed in the second quarter continuing for the rest of 1985. In the second quarter, both sales and earnings increased substantially over those in the first three months of the year. But for the entire first half, Celanese Canada's sales were down 8.9%, and earnings down a sizable 15%.

For Celanese, a big earnings improvement occurred in the chemicals division, where a combination of price increases, foreign exchange credits, and improved plant operating efficiencies yielded much better profit margins.

For C-I-L, however, profit margins for several chemical products, particularly fertilizer and polymers, are under heavy pressure. This, says chairman and chief executive officer C. H. (Chuck) Hantho, is because lower economic growth rates in North America and overcapacity are keeping a lid on price increases. Yet, perhaps because of its diverse product line, C-I-L fared better than most Canadian chemical companies in the first half. Sales increased 5.3% to $486 million, and profits advanced a healthy 14% to $18.6 million. And when the year is ended, Hantho expects C-I-L's bottom line to be better than it was last year.

Earl Anderson, New York

Combined earnings rose in second quarter



a After-tax earnings of four largest publicly reporting Canadian chemical companies—C-I-L, Celanese Canada, Du Pont Canada, and Union Carbide Canada. Figures are converted from Canadian dollars using each year's average exchange rate.

Sales slide in first half, and earnings slide even more

	FIRST-HALF 1985					
$ Millions[a]	Net Sales	Change from 1984	Net Income[b]	Change from 1984	Profit margin[c] 1985	1984
C-I-L	$ 485.9	5.3%	$18.6	13.6%	3.8%	3.5%
Celanese Canada	133.9	−8.9	4.1	−15.4	3.0	3.3
Du Pont Canada	446.9	−0.8	4.7	−77.1	1.0	4.5
Union Carbide Canada	223.3	−14.6	−2.6	d	d	1.3
TOTAL	$1290.0	−2.3%	$24.8	−45.1%	1.9%	3.4%

a $1.00 = 1.36 Canadian dollars, June 30. b Net income from continuous operations, excluding extraordinary gains or losses. c Net income as a percentage of sales. d Deficit in 1985.